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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Robert Fu

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01/30/2009

TRANSMETA C/O MURABITO, HAO & BARNES LLP
TWO NORTH MARKET STREET
THIRD FLOOR
SAN JOSE, CA 95113

EXAMINER

MONDT, JOHANNES P

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/712,523	Applicant(s) FU ET AL.	
	Examiner JOHANNES P. MONDT	Art Unit 3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 21-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 21-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/22/08 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. ***Claims 1-8 and 21-28*** are rejected under 35 U.S.C. 102(b) as being anticipated by Rastegar et al (5,422,591).

On claims 1 and 21: Rastegar et al teach a circuit for regulating the substrate potential of an integrated circuit (see title and abstract; Figure 2) comprising:

a switch 30 or switch means 30 (col. 3, l. 60+);

a first input B (col. 4, l. 2+) capable of controlling said switch coupled to a first N-well bias supply line (through node 20) (the transistors Q1 and Q2 are NMOS transistors, hence source/drain diffusion regions meet “N-well”);

Art Unit: 3663

a second input A (col. 4, l. 1+) capable of controlling said switch coupled to a substrate bias supply line (through the line emanating from C);

a first switching terminal or first switching terminal means D (col. 4, l. 14-27) of said switch coupled to a ground; and

an output terminal C (col. 4, l. 2-4) of said switch coupled to a P-type substrate ("P-well" of Q1). Said switch is capable, in fact: configured, to selectively couple said second input A to said output terminal C responsive to a voltage of said substrate bias supply line (with node 20) (col. 4, l. 2+).

It is noted furthermore that the claim language that "said switch is operable" constitutes intended use (functional language). Applicants are reminded that intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art.

On claims 2 and 22: said circuit is capable of electrically couple said P-type substrate to said ground (C to D) when a bias voltage is present on said first N-well bias supply line (col. 4, l. 14-27, especially l. 21-22).

It is noted furthermore that the claim language that "said switch is operable" (claim 2) and "said switch means is operable" constitute intended use (functional language). Applicants are reminded that intended use and other types of functional language must result in a structural difference between the claimed invention and the

Art Unit: 3663

prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art.

On claims 3 and 23: said circuit is capable of electrically couple said P-type substrate to said substrate bias supply line (B to C) when a substrate bias voltage is present on said substrate bias supply line (col. 4, l. 2+).

It is noted furthermore that the claim language that “said switch is operable” constitutes intended use (functional language). Applicants are reminded that intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art.

On claims 4 and 24: the circuit further comprises a third input capable of controlling said switch, resp. switch means, coupled to a second N-well bias supply line (source/drain of Q2 meets second ‘N-well’) (Fig. 2).

It is noted furthermore that the claim language that “for controlling said switch” constitutes intended use (functional language). Applicants are reminded that intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the

Art Unit: 3663

intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art.

On claims 5 and 25: said switch resp. switch means in the circuit is capable of electrically couple said P-type substrate to said ground (C to D) when a bias voltage is present on said second N-well bias supply line.

It is noted furthermore that the claim language that “operable to electrically couple” constitutes intended use (functional language). Applicants are reminded that intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art.

On claims 6 and 26: said circuit is capable of electrically couple said P-type substrate to said substrate bias supply line (B to C) when a substrate bias voltage is present on said substrate bias supply line (col. 4, l. 2+).

It is noted furthermore that the claim language that “said switch is operable”, and “said switch means is operable” (claim 26) constitutes intended use (functional language). Applicants are reminded that intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In

Art Unit: 3663

a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art.

On claims 7 and 27: the conditions under which the coupling is achieved are not dependent upon the bias voltage on said N-well bias line, but only on whether the voltage on second input A is high (col. 4, l. 2+) and hence the claim is met by virtue of the rejection of claim 6, which is herewith included by reference.

On claims 8 and 28: the conditions under which the coupling is achieved are not dependent upon the bias voltage on said N-well bias line, but only on whether the voltage on second input A is low (col. 4, l. 14-27) and hence the claim is met by virtue of the rejection of claim 5, which is herewith included by reference.

Response to Arguments

4. Applicant's arguments filed 12/22/08 have been fully considered but they are not persuasive with regard to the art rejections, although applicant's arguments in traverse of the rejections under 35 U.S.C. 112, first and second paragraphs, are found persuasive. With regard to applicant's arguments in traverse of the rejection under 35 U.S.C. 102(b) as being anticipated by Rastegar et al US 5,422,591) examiner offers the following response:

a. Applicant's first argument (portion bridging pages 5 and 6 in "Remarks") at most is predicated on a distinction of use rather than the structure of the claimed circuit. What decides whether the limitation "a second input for controlling said switch coupled to a substrate bias supply line" is met in Rastegar et al by input A

Art Unit: 3663

is whether the signal at A has the capability to influence the switch, which is evidently true because by admission of applicant since a low signal at A prompts the switch to switch the body bias connection (col. 4, l. 14-27).

b. Applicant's second argument (starting at line 8 of page 6 of "Remarks") fails for the same reason, because applicant again relies on the notion that only one input, namely the input though B from N1out, controls the switch; examiner disagrees for the same reason as provided above: A provides input into the switch and its action is thus determined by it (again, see col. 4, l. 14-27).

c. Applicant's third argument (starting at line 4 of page 7 of "Remarks") alleges the recently introduce additional limitation "wherein said switch is operable to selectively couple said second input to said output terminal responsive to a voltage of said substrate bias supply line" seems based on an interpretation of said additional limitation that is narrower than its broadest reasonable interpretation. When signal at A is low the body bias connection is different from when it is not, by which it is shown that the second input (A) is indeed selectively (i.e., when A is low) coupled to the output terminal (C) that receives the signal as modified by said second input.

Erroneous identification at one point in the rejection of clearly identified output terminal C with substrate bias supply line is removed from the language of the rejection, which however in no way changes the positively recited structural elements and their identification in the rejection. Indeed, C is the output terminal,

As identified as such in the previous Office action (page 4, final two lines, of the Office action mailed 8/21/08.

d. Applicant's allegation on page 7, lines 15-18, that "Rastegar is not operable to connect anything to a voltage of said substrate supply line" is disconnected from the claim language that does not recite "connection", nor "connected".

e. Applicant's argument starting at line 4 of page in "Remarks" fails to persuade because the switch 30 is capable of being based (and in fact is based) on "a voltage of said substrate bias supply line", because based on whether the latter is low or high the switch operates to select ground voltage (D) or the voltage at node 20 (B).

f. Applicant's argument starting at line 15 of page 8 in "Remarks" fails to persuade because applicant fails to point to any incapability of the prior art device to perform the functions as recited in the claim language. Again, applicant misinterprets his own claim language, because according to a reasonable interpretation the capability of the structure of the claimed circuit is met by Rastegar et al in the following manner: when signal at A is low the body bias connection is different from when it is not, by which it is shown that the second input (A) is indeed selectively (i.e., when A is low) coupled to the output terminal (C) that receives the signal as modified by said second input. Clearly, then, the prior art switch 30 is operable to selectively couple said second input (V_A) to said

Art Unit: 3663

output terminal (C) because evidently the voltage V_C at C depends on the voltage at A, i.e., V_C is responsive to a voltage V_A of said substrate bias voltage.

g. Applicant's argument starting at line 11 of page 9 of said "Remarks" fails to persuade because while now applicant admits A to be control input, his allegation that B is not contradicts the prior art, because for high voltage at A the voltage at B controls the value of the output terminal C (col. 4, l. 2-4).

h. Applicant's argument starting at line 6 of page 10 of "Remarks" fails to persuade because, as a repackaging of previous argument denying again that the prior art is "configured to selectively couple said second input A to said output terminal C". Examiner deems the argument to have been adequately addressed supra. In short: The voltage at C selectively (namely: depending on whether A is high or lower) depends on the voltage at A, and hence said input at A is selectively coupled to said output terminal, contradicting applicant's allegation on the absence of any coupling between A and any other node.

i. Applicant's argument starting at line 1 of page 11 of "Remarks" alleging failure by Rastegar et al to teach (or suggest) the limitation on second input is contradicted by the fact that the voltage at A is input into the switch 30 and controls the output of said switch in the form of an influence on the output voltage V_C communicated to the substrate via the substrate bias supply line.

In Conclusion: In light of the foregoing considerations applicant's arguments in traverse of the rejections over Rastegar et al fail to persuade and the rejection is herewith made to stand.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHANNES P. MONDT whose telephone number is (571)272-1919. The examiner can normally be reached on 7:30 - 17:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack W. Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Johannes P Mondt/
Primary Examiner, Art Unit 3663